REMARKS

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, the claims have been amended for clarity.

Applicants believe that the above changes answer the Examiner's 37 C.F.R. 1.75(a) objection to the claims, and respectfully request withdrawal thereof.

The Examiner has rejected claims 1-13 and 15 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,310,982 to Allred et al. The Examiner has further rejected claim 14 under 35 U.S.C. 103(a) as being unpatentable over Allred et al. in view of U.S. Patent 5,055,927 to Kessen et al.

The Allred et al. patent discloses a method and apparatus for reducing motion artifacts and noise in video image processing, in which the differences between currently received pixels (Xi(t)) and filtered pixels from a previous frame (Xo(t-1)) are processed in a spatial filter 18, weighted average or signal ratios 38 and filter functions 26, the resulting signals being added to the filtered pixels from the previous frame to form the output filtered pixels (Xo(t)).

The subject invention, as claimed in claims 1 and 14-16, includes the limitation "determining statistics from a spatial spread of a set of original pixel values (P_t,M_i) in at least one image of the image sequence (V1)".

It has been well founded that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

With regard to the above claim limitation, the Examiner states:

> "determining means (Fig. 2,num. 18: Spatial filter) for determining (11) statistics (Fig. 2,num. 18: Spatial Filter determines statistics or "averages the difference values" in col. 4, lines 64,65 which is represented as "M" in fig. 2.) from a spatial spread (Fig. 2,num. 18: Spatial Filter operating receives difference values K1-K24 as shown in fig. 2, label "D", which are spatially arranged as shown in fig. 5a. According to the after final amendment, the spread is based on a difference on page 4, last paragraph. Hence, the values, K1-K24 of fig. 5a and shown in fig. 2, label "D", are spatial spread or spatial difference values spatially arranged as shown in fig. 5a.) of a set of original pixel values (Fig. 2, label: Xi(t) in an "incoming image frame" in col. 4, line 28 of pixels.) (P_t,M_i) in at least one image (Fig. 2, labels xi(t) and Xo(t-1) are two images or frames where the spread of difference, "D", is generated to determine statistics or the average in fig. 2,num. 18.) of the image sequence (V1)(Fig. 2, label, Xi(t) corresponds to a "current frame", while Xo(t-1) corresponds to a "previously displayed frame" in col. 5, lines 32-35. Hence, the current frame is of an image sequence.);"

Applicants submit that the Examiner is again taking terms out of context. In particular, the specification, on page 2, lines 9-12, states "The spread is a measure based on differences between pixel values, the spread being preferably computed as a sum of absolute differences, a given absolute difference being obtained by

subtracting an average pixel value form a given original pixel value." Allred et al. forms a temporal difference between the input pixels of an image and the pixels of a delayed filtered image (note the unlabeled difference circuit forming the output D). Hence, what is shown in Figs. 5a and 5b is an array of temporal difference values. The spread in this case would be a measure based on differences between these temporal difference values. This is completely different from a spatial spread of pixels from an input image, where the spread is based on differences between pixels in the same image.

It is noted that the claims recite that the spatial spread is determined in at least one image of the image sequence. This means that a separate spatial spread is determined for each image.

The Kessen et al. patent discloses a dual channel video signal transmission system in which an HDTV signal is encoded onto two channels, transmitted, and then the received 2-channel signals are recombined in a combiner and filter 9 to reform the HDTV signal.

The Examiner now states "Kessen et al. teaches a method of encoding (1) an image sequence (V1), comprising the steps of: a) encoding (Fig. 1, num. 2 and 6 receive images) a plurality of filtered images (Fig. 1 "HDTV" on the left and right ends are the same) Note that HDTV of fig. 1 is produced from a filter 9 of fig.

1. Therefore, the HDTV on the left end of fig. 1 was filtered by filter 9."

This statement by the Examiner does not make any sense. Clearly, the elements to the left of the vertical dashed line are at a transmitter which receives an HDTV signal for transmission, while the elements to the right of the vertical dashed line are at a receiver which receives the two channels transmitted by the transmitter, and combines the received signals in the combiner and filter 9 to reformulate the HDTV signal.

Notwithstanding the above, the transcoder 1 of Fig. 1 in Kessen et al. does include a horizontal transcoder filter 9 and a vertical transcoder filter 10, and the output from the transcoder 1 is applied to a TV encoder 2. As such, Kessen et al. arguably does show encoding a plurality of filtered images.

However, Applicants submit that Kessen et al. does not supply that which is missing from Allred et al., i.e., "determining statistics from a spatial spread of a set of original pixel values (P_t, M_i) in at least one image of the image sequence (V1)".

In view of the above, Applicants believe that the subject invention, as claimed, is neither anticipated nor rendered obvious by the prior art, either individually or collectively, and as such, is patentable thereover.

Applicants believe that this application, containing claims 1-16, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

by
Edward W. Goodman, Reg. 28,613
Attorney
Tel.: 914-333-9611